



Microweather Moderation (μM)

Activity Description

Demonstrate the desirability (D), viability (V), and feasibility (F) of improving city flyability by altering the urban built environment to support advanced air mobility as envisioned by the Aeronautics Research Mission Directorate (ARMD) for ubiquitous urban air mobility and in the emerging NASA/FAA Vision 2045.

Key DVF Barriers to Overcome (Needs)

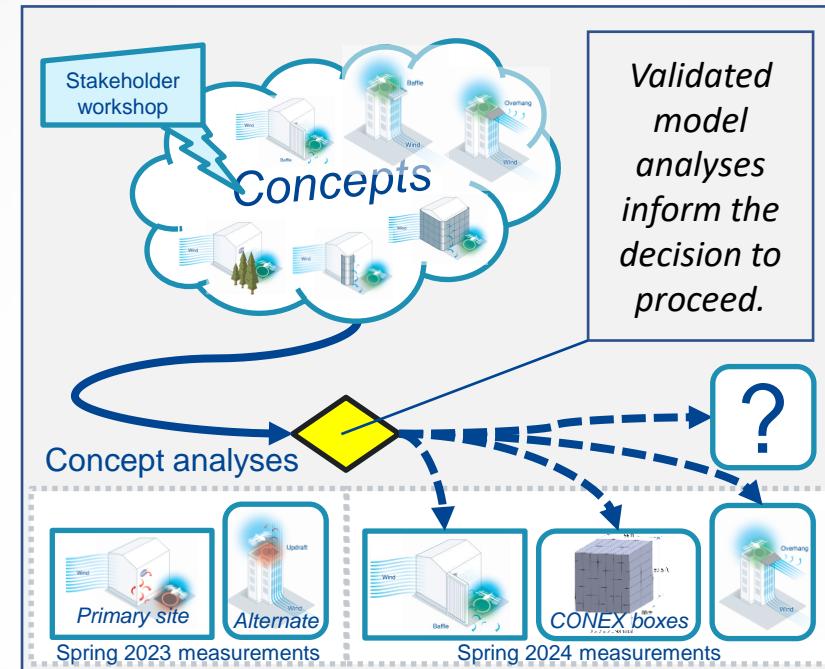
- (D) Microweather hazard analysis methods
- (V) Business case analysis methods
- (F) Undesirable microweather metrics

Assessment Criteria

Demonstrate a cost-effective technology prototype that moderates undesirable microweather conditions to enable safe and reliable high-intensity urban air operations.

ARMD Strategic Thrusts

- 1: Safe, Efficient Growth in Global Operations
- 5: In-time System-wide Safety Assurance
- 6: Assured Autonomy for Aviation Transformation



Mar '22 Kickoff
 Sep '22 Measurement experimental design
 Jan '23 Stakeholder concepts workshop
 Mar '23 Workshop results decision
 Apr-Jun '23 Building measurements
 Sep '23 Moderation experimental design
 Feb '24 Experimental site plan
 Apr-Jun '24 Moderation measurements
 Sep-Nov '24 Closeout and transition

Partners, Deliverables, & Transition

- LiDAR microweather measurement patent
- Measurement and modeling datasets
- Dual-Doppler lidar technique publication
- Measurements & modeling of microweather moderation techniques publication
- CFD & tunnel results publication
- Weather scout design publication
- Final report
- Transition to ongoing NASA project

Preliminary moderation concepts

